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ABSTRACT

Examined was the nature of "psychosomatic" diabetes in children-a condition resistant to treatment and thought to be triggered by emotional upheaval. Continuous blood samples taken during the child's viewing parental conflict indicated that the psychosomatic diabetics were different in their stress reactions than control groups. Results of family task interviews also indicated characteristics of family interactions (such as undue overprotectiveness and extreme rigidity) as well as patterns of family conflict (including triangulation, the splitting of the spouses and the pressure on the child to choose sides). (CL)

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Psychosomatic Diabetic Children and their Families

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FOREWORD

Dr. Salvador Minuchin of the Philadelphia Child Guidance Clinic and his colleagues have been surveying a dimly understood terrain—the space where family identity and individual identity overlap—trying to find out where the lines of privacy and protectiveness are drawn. Such borderlines, they have found, are fuzzy and tenuous, but significant: Family tension affects children, both emotionally and physically, but the seriousness of the toll depends largely on the nature of familial ties.

As described in this report, Dr. Minuchin and his colleagues have studied the families of diabetic children suffering severe “psychosomatic” attacks—acute diabetic attacks that resist all medical treatment. Dr. Minuchin has studied the families of these “psychosomatic” diabetic children and, as the report describes, has found evidence that these families are characterized by unusual overprotectiveness and rigidity and that the normal boundaries of privacy often do not exist. Dr. Minuchin has contributed significantly to understanding of emotional stress in human relationships and, perhaps just as important, has provided methods that promise to open up family dynamics to future study.

This report will be of interest to pediatricians, child psychiatrists and psychologists, and to all those concerned with the welfare of children.

Bertram S. Brown, M.D.
Director
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"Psychosomatic" Diabetic Children and Their Families

It has long been assumed that conflict between parents imposes an emotional burden on their children. Because the young child is so heavily dependent for a sense of well-being on the quality of interactions with parents, signals of stress between mother and father are logically thought to have a palpable impact on the young.

At the Family Therapy Training Center of the Philadelphia Child Guidance Clinic, Dr. Salvador Minuchin and his associates, Dr. Lester Baker—director of the Clinical Research Center of Children's Hospital—and Dr. Ronald Liebman—medical director of the Child Guidance Clinic—have been investigating the role of family conflict in the psychosomatic ills of children. They do not suggest that stress in the family—or any other stress—can, of itself, produce such physical ailments as diabetes. As psychologist Dr. Bernice Rosman—research director at the Clinic—and her colleagues on Minuchin's team put it:

The sick child admittedly has a predisposing physiological vulnerability. A diabetic child has diabetes and will inevitably manifest its symptoms. What happens, however, is that some children, already diabetic, cannot be managed medically. They are resistant to treatment. And for them, we suspected that stress in the family is a factor.

The cues for the researchers' hypothesis were hardly subtle. Minuchin and his associates had repeatedly observed cases of children whose psychosomatic problems were especially severe and who were typically unresponsive to treatment. They began working in 1966 with a small group of such severe, or "brittle," juvenile diabetic children incapacitated

by their disease. These children had been hospitalized on the average of every 3 to 4 weeks, suffering bouts of ketoacidosis—a serious disturbance in the blood's acid-base metabolism. Exhaustive study had failed to uncover any organic cause for such recurrent crises. Moreover, when the children were removed to a hospital or children's residential facility, away from home and family, their bouts with ketoacidosis ceased. When they were returned home, however, the pattern inevitably resumed. Individual psychiatric therapy had failed to change the pattern of hospitalization, and the hunch was, therefore, that emotional factors embedded in the family were triggering the episodes.

In one typical case, a diabetic 8-year-old girl, whose daily insulin dosage was of the order of 30 units, was given over 500 units of supplemental insulin over a 24-hour period and *still* required hospital admission for diabetic acidosis. The supplemental insulin, provided to the child by her mother, was rechecked and found to have normal biological potency. On admission, the child's blood glucose was extremely elevated, and the degree of her acidosis was acute. A single standard dose of insulin was administered. It was readily effective, thus ruling out unusual forms of insulin resistance.

Such episodes led to the hypothesis that it was the emotional family milieu that triggered bouts of ketoacidosis and the subsequent resistance of the child to standard treatment.

Were these diabetic children, so resistant to treatment (Minuchin and Baker call them the "psychosomatic" group), reacting in a special way to family conflicts? If so, how were they different from other children who, while also diabetic, were free of disabling attacks of ketoacidosis?

A Study of "Psychosomatic" Diabetic Children

To answer the question, Minuchin and his research team contrasted the stress reactions of the "psychosomatic diabetics" with those of two other groups of diabetic children serving as controls—one of them made up of children showing symptoms of behavior disorders, the other made up of children who had no psychological difficulties, i.e., "normal" diabetics.

The biochemical mechanism responsible for the onset of diabetic acidosis is widely acknowledged to be the release of free fatty acids (FFA) in the blood. The same substance can be regarded as an index of emotional arousal or stress—even in normal children—typically rising within 5 to 15 minutes of exposure to stress. Minuchin's study involved, therefore, an ingenious arrangement designed to unobtrusively test changes in the FFA levels of the vulnerable children at the very time that stressful events in the family were unfolding.

Using what Minuchin calls the "standardized family diagnostic interview," the research team studied the children in the three diabetic groups, along with their parents, in a setting designed to evoke and intensify conflict and tension within the family. To establish a baseline, a half hour was spent settling the parents in an interview room, while the child took a place in an observation room behind a one-way mirror. From that vantage point, the child could see and hear the parents but could not participate. The psychiatrist next told the parents to choose and discuss a family problem and then left for a half hour. Having sown the seeds of discord, the psychiatrist returned and heated up the conflict by clearly allying himself with one spouse against the other. Finally, the child, who had all the while been observing the parents' arguments from the safety of the observation room, was brought into the interview room, and now the psychiatrist asked the parents and child to help each other decide how to resolve the problem. After a half hour, in which parents and child interacted, the entire family adjourned to another room, with no medical personnel present, for what the investigators called a "recovery period." The entire experience—up to the recovery period—was videotaped.

To assess the physiological stress reactions of the family members to each stage of this experience, Minuchin and his team had equipped all of the participants of the study—parents as well as children—with "heparin locks," needles specially designed to allow continuous blood samples to be drawn without disturbing the subject and without the risk of clotting. These were inserted in the arms of the participating family members before the experiment began so that blood could be drawn every 15 minutes by laboratory personnel who were hidden behind a screen.

The free fatty acid levels in the blood samples were later measured and the results matched with clinical assessments of the video-taped family transactions. By correlating the FFA levels with clinical appraisals of family interaction, the investigators were able to define the relationship between patterns of family behavior on the one hand and the emotional arousal patterns of the three groups of diabetic children on the other.

The results clearly marked the seriously ill diabetic children as different from children in the other two groups. At each point in the experiment—while watching the parents become involved in conflict, seeing it exacerbated by the psychiatrist, and especially when immersed in the conflict themselves—the "psychosomatic" children experienced a significantly greater "turn on" of stress as measured by the free fatty acid levels in their blood. Moreover, these levels remained elevated—and, in some cases, continued to rise—even after the conflict

had subsided, while the children and their parents were "unwinding" in a natural setting.

The Family Task Interview

The investigators might simply have assumed that the brains and bodies of these acutely ill children were more vulnerable to stress, but they wondered whether there might be something about their lives within the family that put them at risk for serious bouts with diabetes.

To assess the quality of the interactions among family members and especially the involvement of the child in parental conflict, the investigators engaged each of the families in a "family task interview." The technique allowed the investigator to observe family members interacting with one another as they attempted to answer a series of questions and perform a task in concert. Included in the family setting for this part of the experiment were not only the diabetic children, but also one or two siblings whose presence provided an even richer insight into family interaction.

The group tasks did not focus on family pathology or serious problems: While some items did invite the discussion of ordinary family disagreements and unpleasant feelings, the remainder were either neutral or positive in tone. The task directions were recorded and played back on a tape deck situated just outside the circle of family members. Once the initial instructions were given—for example, that there were no "right" or "wrong" answers or that anyone could operate the recorder—the family was left to its own devices; no one outside the family reentered the room until the tasks were completed. Here are a few examples of what the family heard when the tape recorder was set in motion:

Suppose all of you had to work out a menu for dinner tonight and would all like to have your favorite foods for dinner, but you can only have one meat, two vegetables, and one drink, and one dessert. Talk together about it, but you must decide on one meal you would all enjoy that has one meat, two vegetables, one drink, and one dessert. Remember, you must end up agreeing on just one meal that everyone would enjoy. Okay, turn off the machine and go ahead.

Now in every family things happen that cause a fuss now and then. Discuss and talk together about an argument you had, a fight or argument at home that you can remember. Talk together about it, like what started it, who was in on it, and what went on, and also how it turned out in the end. See if you can remember what it was all about. Take your time. Turn off the machine and go ahead.

We have something we want you to build together. We have one made up for you to copy from. There are enough pieces for you to put it together. The model you will copy from is on the table. Use the pieces in the box next to it to build your copy from. The pieces in the box are divided up into bunches, one bunch of pieces for each one of you to start with. You can work on the table. Remember, it's for the whole family to work on together. Okay, turn off the machine and go ahead.

Characteristics of Family Interactions

Did the families containing "psychosomatic" children operate differently from the others in response to the tasks? Minuchin and his coworkers found that there were, indeed, some unique elements in the interactions among family members containing a psychosomatic child.

To begin with, the sickly diabetics appeared to be inextricably and pathologically *enmeshed* in their families' currents of conflict. In such a family, changes in one member or in the relationship between two of them reverberate throughout the family system; even two-way conversations are rapidly diffused by the entrance of other family members, and one family member may even finish another's sentences. A conflict between any two members sets off a chain of shifting alliances within the whole family as other members get involved. The boundaries that define an individual's private life space are fair game for others, so that privacy is chronically punctured in the name of "togetherness" and sharing. ("Why do you change the furniture around in my room all the time when I'm not there," a 15-year-old, for example, complains to his mother.) Family members also intrude on each other's thoughts, feelings, and communications. One member may relay messages from another member to a third, thus blocking direct communication. In enmeshed families, executive hierarchies are confused. Children may join one parent in criticizing the other, and often the children take inappropriately parental roles toward each other. In the absence of a clearly defined and effective parental collaboration, parents work at cross-purposes in relating to their children. Often one parent enlists a child's support in struggles with the other parent.

In families with a psychosomatically ill child, members also exhibited an undue degree of *overprotectiveness* and *concern* for each other's welfare; nurturance and protective responses are constantly sought and supplied. A sneeze, for example, sets off a flurry of handkerchief offers, and queries and complaints about fatigue may punctuate the flow of conversation. Critical remarks or demands are often quickly followed by pacifying behaviors. Moreover, signs of distress frequently cue family members to take steps to avoid the approach of "dangerous" tension or conflicts. For example, the sick child's emotional outburst may elicit comforting and help designed to avert exposure or exploration of family conflicts. Family members' perceptions of one another are structured around protective concerns, particularly where there is a sick child. In such families, the parents' overprotectiveness retards the child's development of autonomy and competence. (A father tells his two adolescent diabetic daughters, "If Mommy

and I could only take the needles for you, everything would be all right.") In turn the children, particularly the psychosomatic children, feel great responsibility for protecting the family. For the sick child, the capacity to protect the family from conflict through the use of symptoms may act as a major reinforcement for the illness.

Minuchin and his colleagues also found that the psychosomatically ill diabetic child was typically a member of a family marked by *extreme rigidity*, committed to maintaining the familial status quo. Such families experience great difficulty in periods when change and growth are necessary. For example, when a child in an effectively functioning family reaches adolescence, the family will be able to change its rules and patterns of relationship in ways that allow for increased autonomy while still preserving the family continuity. But the family of a psychosomatically ill child operates like a closed system. When events that require change occur, family members insist on retaining accustomed methods of interaction. Consequently, conflict avoidance circuits must be developed, and the sick child serves as a particularly useful detouring route. When the family's low threshold for conflict is approached, the sick child simply becomes ill, allowing family members to detour conflict via their concern for him or her. Because issues that threaten change are not allowed to surface, these families live in a chronic state of submerged stress. Typically, the family represents itself as normal and untroubled except for the sick child's medical problem.

Also characteristic of these families was an *inability or unwillingness to resolve conflicts*, a pattern often buttressed by a strong religious or ethical code. As a result, there can be no explicit negotiation of differences. Problems are left unresolved, to threaten again and again and continually activate the family system's "avoidance circuits." Often one spouse is the "avoider." The other may bring up problems, but the avoider always manages to deflect the kind of confrontation that would lead to the acknowledgment of conflict and its negotiation. A man, for example, may simply leave the house when his wife tries to discuss a problem. While other, normal families may bicker continuously, the constant interruptions and changes of subject typical of enmeshed families obfuscate any conflicts before they are brought to the fore.

Patterns of Family Conflict

Minuchin and his team were especially interested in learning whether the psychosomatically ill child was drawn into the conflicts of the parents in a unique way. They went back, therefore, to the data of the experimental family conflict sit-

uation and found characteristic patterns of behavior that clearly affect the child's ability to "turn off" psychologically—and physiologically—after the stress has passed.

Three patterns of involvement seem to severely handicap the child's ability to "turn off" and, Minuchin concludes, are therefore related to psychosomatic illness.

The first, which Minuchin calls *triangulation*, involves a splitting of the spouses. The children are pressed to ally with one parent against the other. They are put in such a position that they cannot express themselves without siding with one parent against the other. Statements such as "wouldn't you rather do it my way?" are used in the attempt to force the child to take sides. One demonstrative father was finally able to express his covert criticism of his wife, accusing her of coldness to the children. Both parents then pressed their daughter to say whether she preferred her father's ways and wanted her mother to change. Stuck between the two adults, she was unable to speak.

In the second pattern, which Minuchin calls *parent-child coalition*, a split also occurs between the parents, but in this instance the child tends to enter into a stable coalition with one parent against the other. One wife, for example, was unable to express her rage over her husband's refusal to protect her from his mother's attacks. The sick son became deeply involved as his mother's protector and spokesman for her complaints, urging his father to protect her from her mother-in-law. Although the father tried to persuade his son to reject the mother's "childish" demands, the boy doggedly maintained his enmeshed "adult" stance.

In the third type of pattern, called *detouring*, the father and mother are united and submerge their conflicts by "protecting" or blaming their sick child, who is now defined as the only family problem. In several such family studies by Minuchin, the parents required that the children reassure them that they were good parents or join them in worrying about the family. Such parents occasionally vacillate between their concerns for the children and exasperation over the burdens they impose by "not trying to help themselves." In most cases, parental concerns absorb the couple, so that all signs of marital strife—even minor differences—are suppressed or ignored.

Such maneuvers may often occur, of course, in the transactions of effectively functioning families. In Minuchin's view, however, normal families can shift to other modes of conflict confrontation and negotiation. The rigid families with psychosomatically ill children are more likely to engage in self-defeating maneuvers exclusively—virtually as a way of life.

Minuchin found dramatic evidence that the parents of psychosomatically ill children are literally using their children

to absorb the stresses induced by their adult conflicts. Analyses of the blood samples of parents and children show conclusively that when, in the experiment, the children were brought from behind the one-way mirror into the presence of their squabbling parents, the youngsters' FFA levels *rose* dramatically as they became involved in their parents' tensions. At the same time, the parents' FFA levels were dramatically *reduced*. In today's vernacular, the adults had "laid it on" their children.

As Dr. Rosman describes the sequence:

When the interviewer comes in and makes this problem, the parents' FFA levels go up, and so does the child's. When the child comes into the room, the child's level goes up further, but the parents' levels come down. There is an absolute crossover.

How, then, do seriously psychosomatically ill children get that way? The answer, Minuchin says, is not a simple one, but three factors need to be involved. First, the child is physiologically vulnerable; that is, a specific organic dysfunction is present. Second, the child's family is characterized by enmeshment, overprotectiveness, rigidity, and lack of conflict resolution. Third, the sick child plays an important role in the family's pattern of avoiding conflict—a role that serves to reinforce the symptoms.

Dr. Minuchin and his colleagues have studied other disorders—asthma, for example, and anorexia nervosa—and have found that, regardless of the specific physiological problem, the children who suffer severe psychosomatic attacks are the children from constricted family situations—the children who are receiving the brunt of their parents' conflicts. There is little wonder, then, that all of these acutely ill children fare better when they are removed from the family scene. But whisking sick children away from their parents, Dr. Minuchin is quick to emphasize, is at best a stopgap measure. His ultimate goal is to treat not the child, but the family—to essentially reorganize family patterns.

Supplementary Readings

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